

N^o 13,790



A.D. 1898

Date of Application, 21st June, 1898

Complete Specification Left, 20th Mar., 1899—Accepted, 2nd June, 1899

PROVISIONAL SPECIFICATION.

[Communicated from abroad by the Firm of KOCH & HELLER, of Avenue du Mail, 15, Geneva, in the Republic of Switzerland, Manufacturers.]

Improvements in Apparatus for Facilitating the Inhalation of Medicinal Vapours.

I, HENRY HARRIS LAKE, of the Firm of Haseltine, Lake & Co., Patent Agents, 45, Southampton Buildings, in the County of Middlesex, do hereby declare the nature of this invention to be as follows:—

The invention consists of an inhaling apparatus constructed so as to be used
5 either for inhaling hot filtrated air or dry or wet vapours of any suitable medicinal product or both.

The base of the apparatus consists of two portions which are intended to contain a reserve of medicinal products to be used with the apparatus. The said base carries a cylindrical casing having a laterally extending portion and containing
10 an alcohol-lamp. The cylindrical casing is provided with openings and carries the boiler traversed by the stove which is provided with a cover which latter when shut causes the lamp to be extinguished.

The boiler is provided with a double wall forming an air-gap around the inner portion which contains the water to be vaporised.

15 The inner portion is provided with a safety-valve. The steam produced in the said inner portion is used either in the left portion of the apparatus or in the right one or in both at the same time if two persons use the apparatus at once.

The left portion of the apparatus consists of a cock connected by one tube to the inner portion of the boiler, by a second tube to the water bag or receptacle and by a
20 third tube to the infusing vessel.

If water is to be filled into the boiler the water receptacle is first withdrawn and the second tube then allows the water to escape and to indicate that the same has reached the desired level in the boiler.

In the infusing vessel there are provided two sieves intended to carry material
25 to be fused and prevent it falling down into the cock. The top of the infusing vessel carries a removable horizontal tube to which is affixed an adjustable carrier which supports a glass-tube and a drop-cup.

If steam is produced in the boiler and if the cock is open, the said steam is caused to traverse the material contained in the infusing apparatus and to escape
30 from the removable tube through the glass-tube into the mouth of the person using the apparatus.

The right-hand portion of the apparatus is constructed as follows:

The air-gap of the boiler is connected by means of a tube to an air-filter in which a suitable sterilizing material is contained. The said tube and filter are placed
35 in line with the tube connecting the air gap with the chamber or laterally extend-

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ing part of the base for the purpose of rendering the working of the apparatus easy to understand, but in reality the said air filter tube and filter are placed at any other point of the circumference of the air-gap of the boiler for the purpose of causing the air entering this filter to circulate within the air-gap before escaping into the said tube. 5

The aforesaid connecting tube between the air-gap and the chamber has arranged parallel thereto a steam-tube. The said steam tube is connected to a tube of the boiler and has a cock intended to put the right-hand portion of the apparatus in or out of action; The said chamber which is provided with a condensed steam receptacle and a blow off cock, there is provided a vertical tube in the bottom of which a perforated box is arranged for the purpose of containing a suitable medicine through which the steam will be obliged to pass before escaping through the tube and flexible pipe into the mouth of the patient. The vertical tube contains a series of superposed conical partitions provided with suitable holes for causing the steam passing the said tube to take an irregular course, and to be thereby cooled. 10 15

The conical partitions are connected with one another and with the top-piece by means of a rod, so that when the top-piece is withdrawn the said partitions are also withdrawn to allow the tube to be easily cleaned.

The top-piece is a valve-box in which a return-valve and a blow-valve are arranged. The return valve is formed of a star-shaped plate which is free to move up and down and is guided by its points. The blow-valve is formed of a disc which is also free to move up and down. Over the latter valve there are provided several openings. The cover of the top-piece is removable. 20

The nozzle of the top piece is provided with a flexible pipe to which a mouth-piece is affixed. 25

If steam is produced in the boiler and if the cock in the steam tube is open, the steam entering the casing or chamber through the tube causes a suction to be produced in the connecting tube, and the air, entering the filter and circulating in the air-gap to pass with the said steam through the medicine contained in the receptacle therefor, the conical partitions and the return valve to the flexible pipe and mouth-piece. 30

In some cases the flexible pipe will preferably be provided with a water-pot receptacle fixed to an intermediate pipe inserted substantially in the middle of the length of the said flexible pipe. 35

In a modified form of the medicine tube the said tube is combined with a concentric inner tube and with a cover having suitable openings. The medicine is placed between the tubes and the steam entering the latter is thrown back by the cover upon the said medicine and then escapes through the openings into the vertical tube in the manner above described. 40

When the vapours escaping from the infusing apparatus are to be mixed with a pulverized liquid the tube leading from such apparatus is then combined with a suction pipe plunging into a glass containing the liquid medicine and placed in the drop-cup. This device works in the well-known manner for inhaling steam and a pulverized liquid. 45

In a modified form of condensed steam pot the latter is provided with several openings over which a screen is arranged the purpose of which is to control the openings. These openings are intended to allow the steam which may enter the pot to escape.

Dated this 21st day of June 1898. 50

HASELTINE, LAKE & Co.,
45, Southampton Buildings, London, W.C.,
Agents for the Applicant.

COMPLETE SPECIFICATION.

Improvements in Apparatus for Facilitating the Inhalation of Medicinal Vapours.

I, HENRY HARRIS LAKE, of the Firm of Haseltine, Lake & Co., Patent Agents, 45, Southampton Buildings, in the County of Middlesex, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to an inhaling apparatus constructed so as to be used either for inhaling hot filtrated air or the dry or wet vapours of any suitable medicinal product or both, and is illustrated in the accompanying drawings, in which

Figure 1 is a vertical section through the apparatus.

10 Figures 2 and 3 show in side-view and plan a modified construction of the mouth-piece.

Figures 4 to 7 show modifications of several portions of the apparatus shown in Figure 1.

15 In all the figures of the drawings like letters of reference refer to corresponding parts.

The base of the apparatus consists of two portions A^1 and A^2 which are intended to contain a reserve of medicinal products to be used with the apparatus. The said base carries a cylindrical casing B^1 containing an alcohol-lamp C. The case B^1 is further provided with a laterally extending portion B^2 hereinafter referred to. The cylindrical casing B^1 is provided with openings b^1 and carries the boiler B^4 traversed by the flue B^3 which is provided with a cover b^2 , which latter when shut causes the lamp to be extinguished.

The boiler B^4 is provided with a double wall forming an air space b^4 around the inner portion b^3 which contains the water to be vaporized.

25 The inner portion b^3 is provided with a safety-valve b^5 . The steam produced in the said inner portion b^3 is used either in the left hand portion of the apparatus or in the right hand one or in both at the same time if two persons use the apparatus at once.

30 The left hand portion of the apparatus consists of a cock D D^1 connected by a tube d^1 to the inner portion b^3 of the boiler, and by a second tube d^2 to the water bag or receptacle E, and by a third tube d^3 to the infusing vessel F.

If the boiler b^3 is filled with water the water receptacle E being first withdrawn, the tube d^2 then allows water to escape and to indicate that the same has reached the desired level in the boiler.

35 In the infusing vessel F, there are provided two sieves f^1 and f^2 intended to carry material to be infused and prevent it falling down into the cock D D^1 . The top of the infusing vessel carries a removable horizontal tube G to which is affixed an adjustable carrier g which supports a glass-tube H and a drip-cup I.

40 If steam is produced in the boiler and if the cock D D^1 is open, the said steam is caused through passage d^3 to traverse the material contained in the infusing apparatus F and to escape from the removable tube G through the glass-tube H into the mouth of the person using the apparatus.

g^1 is a screw cap adapted to be screwed upon the tube G when said tube is not in use.

45 The right-hand portion of the apparatus is constructed as follows:

The air-space or gap b^4 of the boiler B^4 is connected by means of a tube K^1 to an air-filter K in which a suitable sterilizing material k is contained. The said tube K^1 and filter K are placed on the drawing in line with the tube L, for the purpose of rendering the working of the apparatus easy to understand, but in reality the

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said air filter tube K¹ and filter K are placed at another point of the circumference of the air-space of the boiler, for the purpose of causing the air entering the filter K to circulate within the air-gap b⁴ before escaping into the said tube L.

The aforesaid tube L connects the air-gap b⁴ with the chamber B² in which a steam tube M¹ is arranged parallelly to the tube L. The said steam tube M¹ is 5 connected to a tube B⁵ of the boiler and is provided with a cock M² intended to put the right-hand portion of the apparatus in or out of action; b⁺ is a blow-off cock. On the casing B², which is provided with a receptacle S for condensed steam is provided a vertical tube O in the bottom of which a perforated box N is 10 arranged for the purpose of containing a suitable medicine through which the steam will be obliged to pass before escaping through the tube O and the flexible pipe Q into the mouth of the patient. The vertical tube O contains a series of superposed conical partitions o¹, o², o³, o⁴ provided with suitable holes for causing the steam 15 passing the said tube O, to take an irregular course in the manner shown by the arrow in the drawing and to be thereby cooled.

The conical partitions o¹, o², o³, o⁴, are connected with one another and with the top-piece P by means of a rod O¹, so that when the top-piece P is withdrawn the said partitions o¹, o², o³, o⁴, are also withdrawn to allow the tube O to be easily 20 cleaned.

The top-piece P is a valve-box in which a return-valve p¹ and a blow through valve p² are arranged. The return valve p¹ is formed of a star-shaped plate which is free to move up and down and is guided by its points. The blow through valve p² is formed of a disc which is also free to move up and down. Over the said valve p² there are provided several openings p³. The cover P² of the top-piece P 25 is likewise removable.

The nozzle P¹ of the top piece is provided with a flexible pipe Q to which a mouth-piece R (Figure 1) or R¹ (Figures 2 and 3) is affixed.

If steam is produced in the boiler and if the cock in the steam tube is open, the steam entering the casing B² through the tube M¹ causes a suction to be produced in the connecting tube, L and the air, entering the filter K and circulating in the 30 air-gap b⁴, to pass with the said steam through the medicine contained in receptacle N, the conical partitions o¹ o² o³ o⁴ and the return valve p¹ to the flexible pipe Q and mouth-piece R.

In some cases the flexible pipe Q will preferably be provided with a water receptacle q, fixed to an intermediate pipe Q¹ inserted substantially in the middle 35 of the length of the said flexible pipe Q as shown in Figure 4.

In a modified form of the medicine-tube N¹ Figure 5, intended to replace the perforated tube N of Figure 1, the outer tube thereof is combined with a concentric inner tube n¹ and with a cover N² having suitable openings n². The medicine is placed between the tubes N¹ and n¹ and the steam entering the latter 40 as shown by the arrow 1 is thrown back by the cover N² upon the said medicine and then escapes through the openings n² into the vertical tube O in the manner above described with reference to Figure 1.

Figure 6 shows how the tube G may be arranged when the vapours escaping from the infusing apparatus F are to be mixed with a pulverized liquid.

The said tube G is then combined with a suction pipe G¹ dipping into a glass I¹, 45 containing the liquid medicine and placed in the drip-cup I. This device works in the well-known manner for inhaling steam and a pulverized liquid.

In a modified form of condensed steam pot or receptacle S the latter is provided with several openings s over which a screen s¹ Figure 7 is arranged, the purpose 50 of which is to control the openings s. These openings are intended to allow the steam which may enter the pot S to escape.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, as communicated to me by my foreign correspondents, I declare that what I claim is:— 55

1. A double-working inhaling-apparatus, characterized by the combination of a

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suitable lamp C and of a boiler B⁴ having a central flue B³ and an air-gap b⁴, on the one hand with the cock D, D¹, infuser F, tube G and adjustable glass-tube H, and on the other hand with the tubes L, M¹, the casing B², the tube O with conical partitions o¹, o², o³, o⁴, the valves p¹ p² and the hose Q with suitable
5 mouthpiece, substantially as shown and described.

2. In a double-working inhaling-apparatus as specified in Claim 1, the combination of the tube G with a suction-tube G¹, cup I and glass I¹ substantially as and for the purpose specified.

3. In a double-working inhaling-apparatus as specified in Claim 1, the combination
10 of the hose Q with a water-pot or receptacle q substantially as shown in Figure 4.

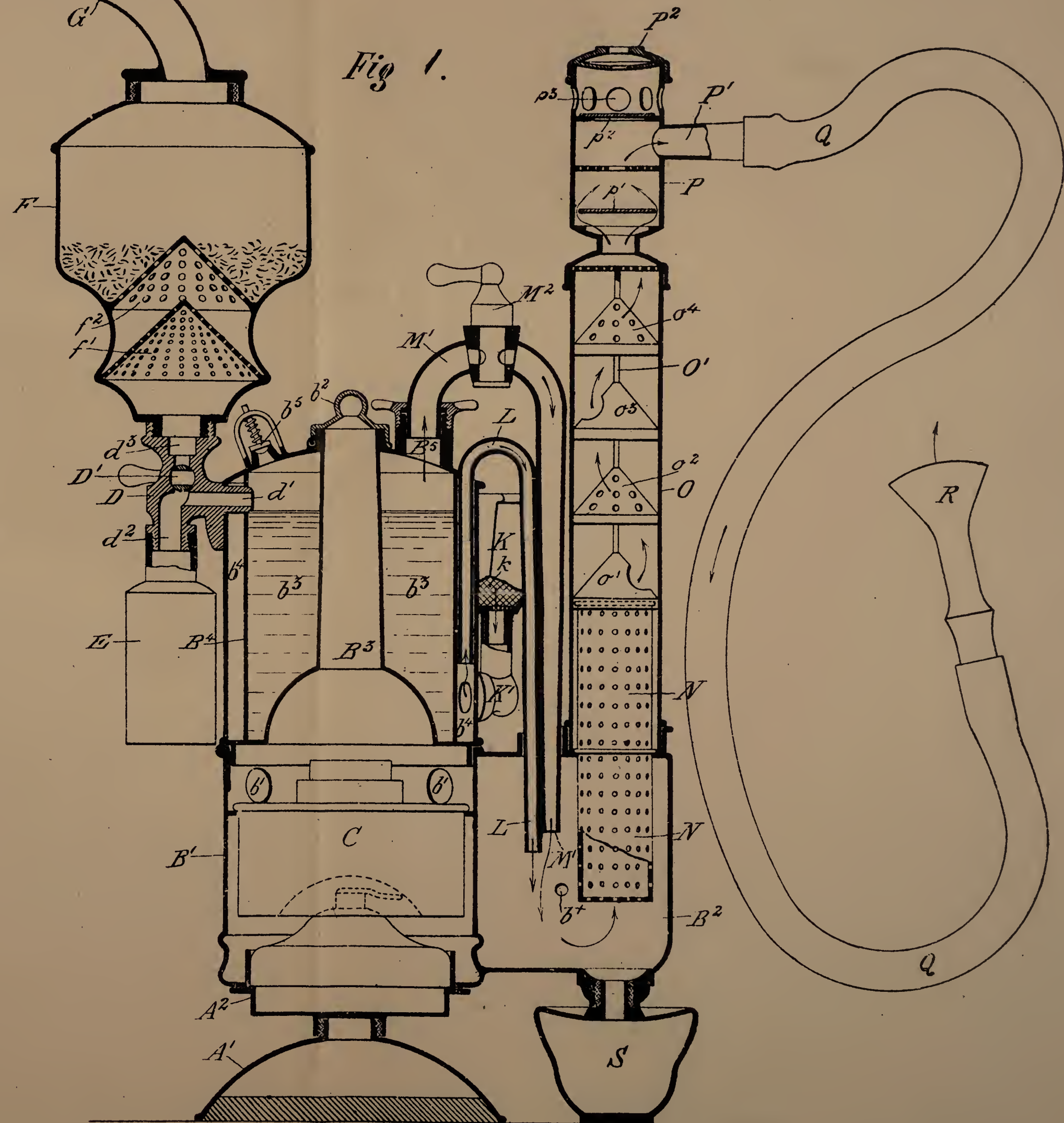
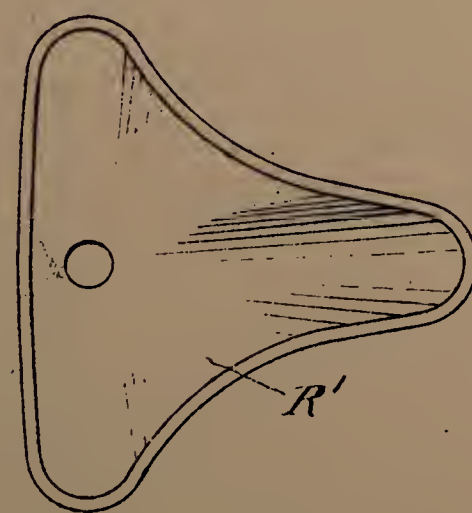
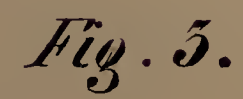
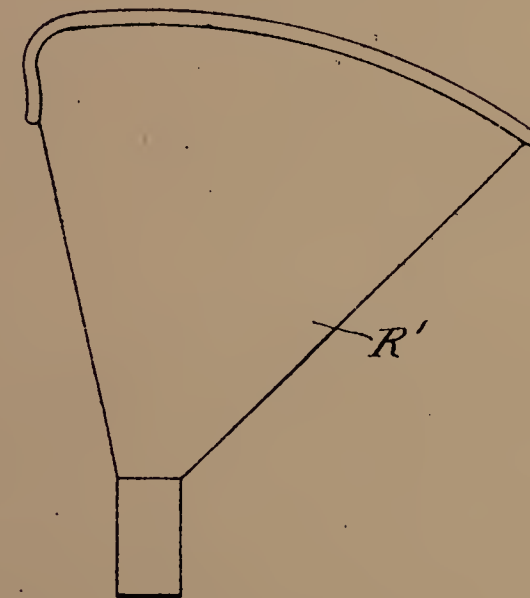
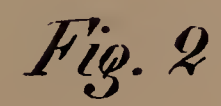
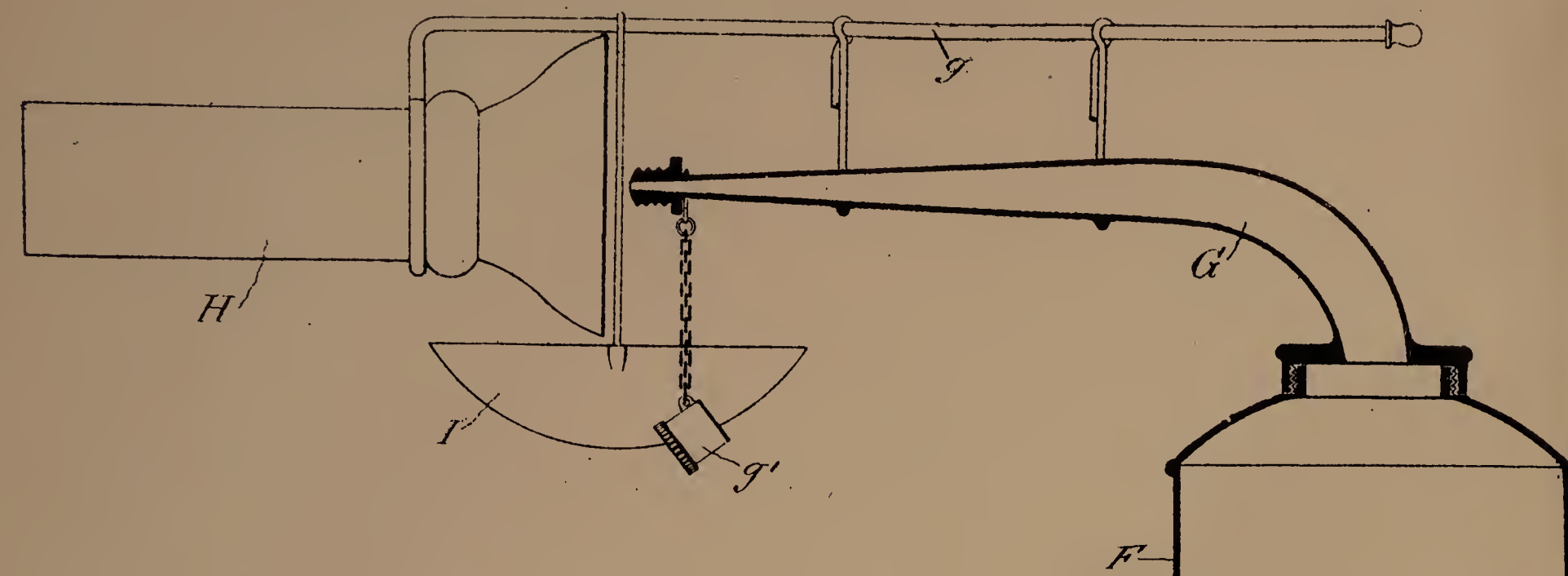
4. In a double-working inhaling-apparatus as specified in Claim 1, a medicine-box formed of two concentric tubes N¹ and n¹ and of a cover N² having holes n², substantially as shown in Figure 5 and for the purpose specified.

15 Dated this 20th day of March 1899.

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Agents for the Applicant.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1899.





[This Drawing is a reproduction of the Original on a reduced scale]

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